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CRIMINAL SENTIMENTS AND CRIMINAL BEHAVIOUR

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Abstract

The renewed enthusiasm in social psychology for the analysis of attitudes, values, and beliefs is particularly important to the understanding of criminal behavior. While procriminal sentiments have been assigned a central causal role in criminological theory, they have received only cursory empirical testing. Three self-report, paper-and-pencil measures of criminal attitudes are described in this paper. A comprehensive empirical analysis of the scales revealed moderate but consistently significant levels of concurrent and predictive validity in relation to a variety of theoretically relevant criterion measures. Most encouraging for correctional practice was the finding that changes on the measures over time had reliable antecedents and signaled corresponding changes in future criminal behavior.

Criminal Sentiments and Criminal Behavior: a Construct Validation

The nature of the association between attitudes and behavior has been an enduring issue in social science (Cialdini, Petty & Cacioppo, 1981). In the last few years, there has been a renewed sense of optimism that the assessment and control of personal sentiments (i.e., attitudes, beliefs, and values) represent promising means to a greater understanding of human behavior. Developments in social learning and emerging cognitive perspectives of deviant and nondeviant behavior have encouraged this trend (e.g.Ajzen and Fishbein, 1980; Akers, 1973; Bandura, 1977; Jessor and Jessor, 1977; Megargee, 1982; Rotter, 1966).

This paper reviews some fundamental psychometric properties of three self-report, paper-and-pencil assessments of personal attitudes, values and beliefs regarding the law, law violations, and law violators. In the process, the paper examines the role of these criminal sentiments in criminal behavior with reference to empirical, theoretical, and practical issues. A review of the roles assigned to sentiments by theories of criminal behavior is followed by a comprehensive empirical examination of the three measures. The practical domain is strongly represented throughout the paper, since many of the studies on which it is based were program evaluations conducted in prison and probation settings. Our empirical interests include the extent to which the paper-and-pencil assessments of criminal sentiments correlate with alternative assessments of the target domain (i.e., their convergent validity); the extent to which the assessments postdict their hypothetical antecedents; the extent to which the assessments predict their hypothetical consequences; and the concurrent correlations between criminal sentiments and other measures of propensity for rule-violations. Throughout the paper, there is a focus on the dynamic validities of the measures (Andrews, 1983a): their sensitivity to intervention (the dependent validity of change scores) and the predictive validity of residualized change (functional validity).

Criminal Sentiments in Theory

Perhaps no single factor has been assigned a more central role by criminological theory than criminal sentiments (see Nettler, 1978). From the subcultural perspectives, criminal conduct is understood to represent conformity with procriminal norms. At the personal level, sentiments represent the "internalization" of these procriminal norms. The internalization of rules and values is also basic to psychological perspectives of socialization, ranging from Freud to the modern social learning and cognitive theorists. According to differential association theory, criminal sentiments are acquired through association with criminal patterns. Subsequently, these sentiments contribute to one's interpretation or "definition" of specific situations that may favor criminal behavior (Sutherland and Cressey 1978). Glaser (1956) was very explicit when he stated that people persue criminal behavior to the extent that they identify with real or imaginery persons from whose perspective criminal behavior seems acceptable. Proponents of control theory of the (Hirschi,1969; Reckless,1967) have suggested that concomitant ties to conventional values, pursuits, and others are additional factors of importance while Sykes and Matza (1957) suggested how such conventional ties could be overridden by sentiments which place criminal activity in a favorable light. For example, verbalizations which deny injury or responsibiilty and which discredit the moral authority of the law, neutralize the controlling influence of traditional affiliations.

Perspectives in the anomie tradition suggest that blocked opportunity in conventional pursuits is the primary causal factor in criminal behavior. But even within that tradition, mental illness or drug abuse would be predicted in the absence of beliefs that criminal activity was a worthy response to blocked goal achievement. Most generally, the radical criminologists, in their lively challenge of behavioral and more traditional theories, have called for a recognition of the context of beliefs and values within which human choices, deviant or nondeviant, are made (Taylor, Walton and Young, 1973).

Analysis of the causal significance of sentiments is perhaps best approached, not from the traditional criminological perspectives, but from more general social

psychological positions, such as social learning theory, which are more specific about the functional means by which attitudes affect behavior. For example, one important functional role is that of setting the standards against which self-regulation occurs (Bandura, 1977; Carver and Scheier, 1981). Another is providing the content for the subvocal verbalizations and the images which may guide behavior (Meichenbaum, 1977). A third functional role for sentiments involves the storage of prior experience in the form of outcome expectancies and judgements of personal efficacy (Bandura, 1981; Rotter, 1966). Finally, Ajzen and Fishbein (1980) suggested that sentiments of the type discussed here contribute to "intentions". Furthermore, the general social learning perspective is sufficiently sensitive not to proclaim that there is an automatic connection between sentiments and action. Rather, the link between personal sentiments and behavior may be moderated by attention to external rather than internal cues (Snyder, 1979), the level of background social support for the behavior in question (Schuman and Johnson, 1976), or habit strength (Megargee, 1982).

Those criminological theories that have declared the importance of criminal attitudes have also suggested that many other factors compete for functional status. These potentially important variables include social supports for crime (affective ties to offenders and access to criminal resources such as a "fence"); alienation (sense of isolation and powerlessness and awareness of limited opportunity); devaluation of conventional success at school and work; and trouble at school and at home. Personality perspectives on criminality, such as those reviewed by Quay (1965) and in the Hare and Schalling (1978) collection, suggest the importance of factors such as personal distress (low self-esteem and high anxiety), low levels of empathy, low levels of conventional socialization, and personality problems in the sense of skill deficits (self-control, inadequacy-immaturity), pathology (psychopathy and neuroticism) and exaggerated needs for stimulation. As Trasler (1978), has suggested these measures of "personality traits and pathology" may be as readily interpreted as assessments of attitudes, values and beliefs, when they are not more readily interpreted as self-reports of behavioral history in the domains of conformity and deviance. Regardless of the underlying constructs, a thorough and comprehensive

validation of criminal sentiment assessment requires comparisons with variablespurported to measure those other factors that are known, or expected, to relate to criminal behavior.

The Measures

The items for Attitudes Toward the Law, Courts and Police (LCP), Tolerance for Law Violations (TLV) and Identification With Criminal Others (ICO) are listed in Appendix A. The self-report paper-and-pencil measures were modifications of scales found in use in the Conneticut correctional system (Ontario Ministry of Correctional Services, 1970; Gendreau, Grant, Leipciger and Collins, 1979). Their roots appear to reside in the work of Reckless and colleagues. Modifications included all of the following: substitution of a five-point Likert response format for the True-False format in an attempt to increase the sensitivity of the measures; changes in wording to make the items equally appropriate for samples of adolescents and adults, men and women, and adjudicated offenders and nonoffenders; and deletions of items if their content was already better and more appropriately represented in one of the other scales. LCP items reflect respect for the law and criminal justice without specific reference to law violations or law violators. TLV items reflect specific justifications for illegal activity, and ICO items require personal judgements regarding criminal others.

Norms, Demography and Reliability

The accompanying tables are summaries of several research programs undertaken over the last ten years with adult Canadian samples. For the most part, the psychometric attributes of the measures were not the original focus. Therefore, the summary strategy and sample size varies from table to table. Details regarding statistical derivations and subject samples are presented in footnotes to the tables.

Table 1 presents four sets of means and standard deviations for each of the scales: one set was derived from officially adjudicated criminal samples (probationers and incarcerates), another from federal inmates transferred to a

psychiatric facility, the third from samples of citizens who had voluntered for service roles in correctional programs, and the fourth from a sample of undergraduates. Table 1 also reveals that the endorsement of procriminal sentiments was a negative function of age but not strongly or consistently associated with either the gender or social class of respondents.

Insert Tables 1 and 2 about here

Table 2 reveals that the internal consistency estimates were acceptable but that the temporal stability reliabilities were low, particularly for ICO over six months. However, temporal instability is not necessarily an undesirable psychometric attribute if the validity of change scores can be demonstrated. In keeping with our emphasis on the dynamic and functional aspects of criminal sentiments, the antecedents and consequences of their apparent instability are explored in a later section.

Convergent and Divergent Validity

This section focuses upon the issues of convergent and divergent validity as developed by Campbell and Fiske (1959). Convergent validity refers to correlations with concurrent alternative assessments of the same target construct or behavioral domain. In part, the establishment of divergent validity, involves comparisons of convergent estimates with inter-domain correlations. The factor structure of the scales also speaks to construct validity.

Insert Tables 3, 4 & 5 about here

Factor Analysis. Table 3 reveals mild to moderate intercorrelations among the three measures of criminal sentiments and the single factor solution obtained from a common factors analysis using R squared as communality estimates. These findings support the convergent validity of the measures. In addition, a factor

best defined by some combination of LCP, TLV, and ICO has emerged from each of four separate factor analytic investigations with a large battery of paper-and-pencil questionnaires administed to minimum security prisoners (Wormith, 1977), maximum security prisoners (Wormith, in progress), adult probationers (Andrews et al., 1979), and undergraduates (Wilkins, 1975).

Correlations with other paper and pencil measures of Criminal propensity. Table 4 introduces eight sets of the paper-and pencil self-report measures which are referred to on several occasions in comparisons with criminal sentiments: Social Support for Crime, Alienation, Conventional Success Orientation, Trouble at School/Home, Personal Distress, Empathy, Socialization, and Personality Problems. The correlations between criminal sentiments and the other sets of other paper-and-pencil measures are pooled estimates from a number of studies involving probationers, prisoners,and citizen volunteers in corrections. The canonical correlations are previously unpublished data from an ongoing study of 192 probationers (Andrews and Kiessling, in progress). The latter sample was also the source of the tabled correlations for those measures which had not been employed in previous studies, specifically the social support and conventional success orientation sets and the measures of sensation-seeking and self-control within the personality set. Table 5 presents the correlations between criminal sentiments and various paper-and-pencil measures of propensity for deviance within a sample of federal inmates transferred to a correctional psychiatric facility (Wormith, in progress). With the exception of correlations with measures of empathy and self-esteem/anxiety, the overall pattern of results was very clear and consistent; the endorsement of procriminal attitudes was associated with scores on a variety of measures which suggest personal attributes and situations conducive to criminal activity. Overall, the shared multitrait-monomethod variance was substantial, reaching 35% in the case of the canonical correlation between criminal sentiments and personality problems.

Insert Tables 6, 7 & 8 about here

Correlations with assessments of criminal sentiments by structured interviews (probation sample). The squared multiple correlations (R squares) between the various paper-and-pencil measures and three assessments of criminal sentiments derived from structured interviews are presented in Table 6. The canonical correlations between paper-and-pencil scores and scores derived from structured interviews are also reported. On average, the paper-and-pencil measures of criminal sentiments shared 11.8% of their variance with the alternative assessments of criminal sentiments. Two canonical coefficients (.45 and .26), representing the convergent covariation of assessments by paper-and-pencil and by structured interview indicated that 26% of the variance in criminal sentiments was shared across methods. None of the other sets of paper-and-pencil measures approached these levels of covariation with criminal sentiments assessed by structured interview. In fact, depending upon the specific alternative measure, paper-and-pencil criminal sentiments accounted for 70 to 100% of the variance shared with the total paper-and-pencil battery.

Correlations with assessments of "ties to convention" by way of structured interviews. The paper-and-pencil measurement of criminal sentiments was the best of the paper-and-pencil predictors of the assessments of criminal sentiments by structured interviews. Inspection of Table 7 shows that the convergent validity was not just a reflection of superior validity in a general sense. The average R square for paper-and-pencil assessments of criminal sentiments in relation to assessments of ties to convention based on structured interviews was only 3.6% (canonical $R = .26$). That level of covariation was equalled or exceeded by every set of paper-and-pencil measure but Social Support for Crime and Empathy. On average, criminal sentiments could account for a maximum of only 24% of the variance that the interview-based measures shared with the paper-and-pencil battery. In contrast, the personality set, Alienation, and Conventional Success Orientation could each account for over 45%.

The pattern of canonical correlations presented in Tables 4, 6, and 7 may be summarized in multitrait-multimethod terms. The convergent validity of criminal sentiments (i.e., 26.3% of monotrait-multimethod variance shared) exceeded the variance shared by paper-and-pencil criminal sentiments and interview-based

assessments of ties to convention (6.8%), the variance shared by the two interview-based sets of assessments (10.2%), the average variance shared by interview-based criminal sentiments and the other sets of paper-and-pencil measures (3.4%), and the average variance shared by paper-and-pencil criminal sentiments and the other sets of paper-and-pencil measures (18.3%). The construct validity of criminal sentiments was seriously threatened only in the latter comparison. One is reminded that the shared variance between paper-and-pencil based assessments of personality problems and criminal sentiments was 35%.

Table 8 presents a set of predictive, convergent and divergent validity estimates for the criminal sentiment scores of volunteer probation officers. The intake paper-and-pencil scores were examined in relation to ratings completed by the supervisors of the volunteers 12 months after testing and in relation to content analyses of the verbal behavior of officers during counselling sessions with their probationers. The audio-tapes of the sessions were collected during the first four months of supervision. Ratings on the target domain reflected the anticriminal/ prosocial modeling skills of the probation officers while the nontarget domain was their problem solving skills. The convergent validity of the paper-and-pencil assessments was clear but not great in absolute terms. Moreover, the paper-and-pencil personality set was a stronger predictor of anticriminal ratings and behavior than was criminal sentiments. However, a positive feature of the paper-and-pencil measures of criminal sentiments, relative to the personality set, was their specificity or divergent validity. Unlike the personality set, criminal sentiments did not forecast ratings on the problem solving dimension of correctional counselling.

The Antecedents of Criminal Sentiments

Table 9 presents the concurrent correlations between criminal sentiments and various measures of differential association. The correlations were derived from studies of both criminal and noncriminal samples and in every case association with offenders was associated with the endorsement of criminal sentiments. The pattern is

consistent with the dominant theoretical view that criminal attitudes may be acquired in the process of interaction with others who hold such views. However, as shown in Table 4, social support for crime was not the strongest of the paper-and-pencil correlates of criminal attitudes. That status belonged to assessments of personality problems.

Insert Tables 9 and 10 about here

Experimental evidence regarding the sources of changes on the criminal attitude measures is particularly relevant establishing their anticedents. In a series of studies, changes on the criminal sentiment measures were a function of experimentally controlled exposure to anticriminal versus procriminal expressions under conditions systematically designed to be interpersonally intimate and facilitative (Table 10). The studies have been reviewed elsewhere as experimental explorations of the causal and practical significance of differential association theory (Andrews, 1980). In brief, the measures possess dynamic dependent validity, which is to say that changes on the measures of criminal sentiments have reliable and theoretically relevant antecedents.

The Consequences of Criminal Sentiments

Insert Tables 11 & 12 here

The current research was prompted by the conceptually based assumption that procriminal sentiments are causally related to criminal behavior. Table 11 shows that the measures of criminal sentiments distinguish between extreme groups (i.e., probationers and their officers), that they correlated with the self-reported criminal activity and arrests of undergraduates, and that they related to the official and self-reported criminal histories of probationers. However, the

postdictive validity of criminal assessments was exceeded by measures of personality disturbance.

Predictive validity estimates from two samples of probationers are presented in Table 12. One sample was followed for three postprobation years (Andrews and Kiessling, 1980) and the other has only been followed to the end of their probation period (Andrews and Kiessling, in progress). Reconviction was employed as a binary measure of recidivism in the former study. Two measures a binary record of official reconviction and amount of self-reported, undetected criminal activity over the first six months of probation, were employed in the latter study. The table presents multiple correlations for each set of paper-and-pencil measure and canonical correlations for the sample on which there were two measures of recidivism. For reasons that become clear in later analyses, intake scores on the predictors were introduced first and six-month retest scores followed in a second block. In comparions to assessments of alienation, conventional success orientation, personal distress and empathy, the predictive validity of the assessments of criminal sentiments was clearly superior within both samples. Assessments of social support for crime, trouble at school/home, socialization, and personality problems sometimes exceeded the predictive validities of criminal sentiments in one or both samples. Nonetheless at least two other studies (Madden, personal communication; Wormith, in press;) have demonstrated the predictive validity of criminal sentiments on various measures of recidivism.

Insert Tables 13 & 14 about here

The predictive capacity of change on the measures, their functional validity was explored by examining the proportional increase in explained variance which could be attributed to the addition of retest scores to the prediction formula (Table 13). The results support the functional validity

of the criminal sentiment measures in the case of both official and self-reported measures of recidivism. Note that the magnitude of functional validity estimates was unrelated to levels of traditional predictive validity (Table 11) or postdictive validity (Table 11). Still, reassessments of trouble at school or home and of personality problems functioned reasonably well.

Table 14 illustrates the major point underlying the concept of functional validity In both probation samples of the previous study, ICO contributed the highest levels of functional validity. The six-month retest scores of probationers on ICO were more predictive of post-probation recidivism than intake scores. In fact, the addition of pretest scotes and their interaction with retests made no significant contributions in a 3-by-3 analysis of variance. These findings suggest that the construct represented by ICO is a reasonable target for intervention programs in that the most powerful predictive information was carried, not by position at program intake, but by position at a time closer to discharge.

Moderators of the Validity of Criminal Sentiments

A general social learning perspective on criminal sentiments would suggests that attitudes, values, and beliefs that are supportive of crime represent only one of several important variable sets and that their importance may depend upon other variables. We have already seen that the assessment of criminal sentiments is a consistent, but not the strongest, predictor of criminal behavior. Moderators of their validity are also evident. Andrews et al. (1979) reported that the predictive validity of ICO was particularly strong among probationers who were also relatively free of ties to conventional rules and procedures. This is consistent with control theories of criminal behavior. Morrison (1982) reported that the self-reported criminal activity of undergraduate women increased with their TLV scores, but only among women who also reported an above-average level of social support for crime. This finding is consistent with the contingent consistency hypothesis from general social psychology. Among undergraduate men, TLV scores correlated with criminal behavior only within that subgroup lacking social support for crime, a finding that is in direct conflict with the contingent consistency hypothesis. The differential validity of assessments of criminal sentiments, being a function of gender and social support, may reflect the 'relative density of support hypothesis' (Andrews, 1983c).

sentiments, will be weakest when other supports for criminal behavior are virtually absent (as in the case of women lacking social support for crime) and when other supports for criminal behavior are present, numerous, and varied (as in the case of those men whose criminal behavior is supported, not only by the traditional range of male socialization experiences which favor rule violations, but also by affective ties to offenders). Finally, Wormith (in press) has suggested that the functional validity of ICO changes during incarceration are moderated by concomitant changes on self-esteem. Wormith found that increased ICO scores signaled increased chances of reconvictions during a three-year follow-up when increases where accompanied by increased self-esteem.

SUMMARY

Evidence regarding the predictive criterion validity of pretest and retest scores on the paper-and-pencil assessments of criminal sentiments was sufficiently strong to recommend their use in general research studies, and in criminal justice program evaluation and in clinical assessment of correctional clientelle. However, the levels of reliability and convergent validity, although significant and acceptable, were less than outstanding. Further psychometric development is indicated. Problems of reliability and validity may be reduced by increasing the number of items and hence creating a better sample of indicators particularly on the domains of Tolerance for Law Violations and Identification with offenders. An item-by-item reanalysis of the total battery has been initiated with particular attention being given to the reliability and validity of change scores.

The currently reported results offer some support for the confidence placed in sentiments by criminological theory and suggest their promise as intermediate targets in prevention and correctional programs. Their amenability to influence, combined with the predictive validity of their induced change, should be sufficient

to spark vigorous evaluation efforts now that the correctional field is recovering from the antipersonality and antiinterventionist rhetoric of the 1960's and 1970's. However, a focus on personal sentiments does not preclude equally serious exploration of other potentially functional factors. Two favored targets in the intervention literature, self-esteem and empathy, did not fare well in this review. At the same time, the power of home/school adjustment and personality measures such as psychopathy, neuroticism, sensation-seeking and self-control were noteworthy. Indeed, further research may establish that part of the latters' power is derived from their sampling of relevant cognitive/affective material in the procriminal domain. Whatever the underlying constructs, the broad social learning perspective supports truly multivariate efforts in the search for ethical-legal, and humane approaches to the prediction and control of criminal behavior.

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TABLE 1

Norms and Some Demographics of Criminal Sentiments

	LCP	TLV	ICO
Norms: Means (SD)[a]			
Offenders (N=405)	78.5 (12.4)	28.8 (6.4)	18.3 (3.8)
Psychiatric Offenders (N=220)	84.3 (15.5)	24.7 (6.8)	16.5 (3.9)
Non offenders (N=435)	91.8 (11.8)	23.6 (4.8)	14.8 (3.0)
Undergraduates (N=440)	93.2 (9.7)	24.2 (4.7)	14.8 (3.3)
Age: Pearson Correlations			
Offenders (N=331)	.27	-.23	-.28
Non offenders (N=137)	.28	-.21	-.33
Undergraduates (N=440)	.04 (ns)	-.21	-.21
Gender: Biserial Correlations			
Probationers (N=184)	.17	.12 (ns)	.04 (ns)
Probation Officers (N=74)	.16	.00 (ns)	.18 (ns)
Undergraduates (N=170)	(ns)	(ns)	(ns)
Undergraduates (N=440)	-.02 (ns)	-.13	-.07 (ns)
Social Class[b]: Pearson Correlations			
Men in probation (N=176)	(ns)	(ns)	(ns)
Women in probation (N=80)	.37	(ns)	(ns)
Undergraduate men (N=50)	(ns)	(ns)	(ns)
Undergraduate women (N=50)	-.27	(ns)	.34
Undergraduates (N=440)	.09	-.03 (ns)	-.06 (ns)

a. The offender and nonoffender norms are pooled values from studies in the series reviewed by Andrews (1980). The psychiatric offender norms are based on federal inmates transferred to a psychiatric facility (Wormith, in progress). The undergraduate sample (N=440) is from Morrison (1982) and the 100 undergraduates from Wilkins (1975).

b. Blishen (1967) Socio-economic Status of parents.

TABLE 2

Reliability of the Criminal Sentiment Measures:

Estimates of Internal Consistency and Temporal Stability

Type of Estimate Sample (n)	LCP	TLV	ICO
Internal Consistency			
Split-Half Probationers (N=59)		.90	.93 .88
Alpha Probationers (N=30)		.67	.72 .53
Temporal Stability			
Two Weeks Undergraduates (N=58)		.81	.84 .59
Six Months Probationers (N=156)		.68	.47 .20
Probation Officers (N=67)		.71	.50 .39

TABLE 3

Intercorrelations Among the Measures of Criminal Sentiments and their Factor Structure*.

Measures of Criminal Sentiments	LCP	TLV	ICO
		Nonoffenders (n=381)	
Attitude towards Law, Courts and Police	-	-.42	-.28
Tolerance for Law Violation	-.60	-	.34
Identification with Criminal Others	-.28	.34	-
		Offenders (n=360)	
Factor Coefficients (n=150)	-.27	.61	.16

* All $ps < .001$

TABLE 4

Some Consurrent Menomethod Validities of Paper and Pencil

Measures of Criminal Sentiments

	LCP	TLV	ICO	Canonical Coeficient
Social Support for Crime				
Affective ties to offenders	-.25	.34	.23	.48
Access to Criminal Resources/Models	-.14	.27	.23	
Alienation[a]				
Awareness of limited opportunity	-.27	.27	.17	.53
Isolation, normless, powerless (Dean)	-.29	.37	.25	
Conventional Success Orientation				
Value Education	.34	-.28	-.11	.43
Value Employment	.27	-.19	.22	
Trouble at School/Home[a]				
Family Dissension (Peterson, et al.)	-.12	.21	.09	.42
Scholastic Maladjustment (Peterson, et al.)	-.15	.31	.15	
Personal Distress[a]				
Self-Esteem (Bennett)	.14	-.17	-.10	.26
Anxiety (Bendig)	-.15	.16	.08	
Empathy[a] (Hogan)	-.00 (ns)	-.03 (ns)	-.18	.22
Socialization[a] (Gough)	.21	-.32	-.21	.36
Personality Problems				
Psychopathy[a] (Peterson, et al.)	-.33	.39	.27	.59
Neuroticism[a] (Peterson, et al.)	-.18	.26	.16	
Inadequacy-Immaturity[a] (Peterson et al)	-.02 (ns)	.01 (ns)	.10	
Sensation Seeking	-.30	.42	.20	
Self control	.28	-.32	-.23	

TABLE 4 - (Cont'd)

a) These r's were derived by the pooling of estimates (Zr) for the offender and non-offender samples in the studies reviewed by Andrews (1980) and Wormith (in press), N=691. Only in the case of the Empathy scopes of nonoffenders was there an exception to the pattern evident above: the Empathy scores of citizen volunteers in corrections were positively correlated with ICO. The remaining simple r's and all of the canonical coeficients were derived from a sample of 192 adult probationers (Andrews & Kiessling, in progress).

TABLE 5

Correlation of Criminal Sentiments
With Measures of Deviance on a Sample of
Federally Incarcerated Offenders (N=140)*

	LCP	TLV	ICO	Criminal Sentiment Factor
MMPI				
Psychopathic Deviate (Pd)	-.23(01)	.19(05)	.14(ns)	.22(01)
16PF				
Ego Strength (C)	.31	-.28	-.11(ns)	-.30
Super Ego (G)	.22	-.27	-.19(05)	-.29
Undisciplined vs. Precise (Q3)	.29	-.31	-.17(05)	-.33
California Psychological Inventory				
Responsibility (Re)	.56	-.54	-.37	-.59
Socialization (So)	.35	-.33	-.31	-.38
Self-control (Sc)	.40	-.43	-.35	-.47
Bipolar Psychological Inventory				
Social Deviance	-.59	.50	.47	.59
Impulse	-.35	.31	.30	.37
Hostility	-.52	.52	.45	.59
Insensitivity	-.31	.42	.30	.42
Inmate Personality Scale				
Antisocial Tendencies	-.56	.55	.37	.60
Research Scales				
Locus of Control (External)	-.47	.46	.28	-.49
Machiavelianism	-.58	.60	.39	.64
Psychopathic State	-.44	.53	.42	.55

* All p's < .001, unless otherwise indicated.
N's may vary slightly because of missing values.

TABLE 6

Paper-and-Pencil Measures in Relation to Assessments of Criminal Sentiments by Structured Interviews: Percent of Variance Shared, and Canonical Correlations (N=192 Probationers)[a]

Paper and Pencil Measures	Chances of a Noncriminal Future[b]	Expected Value Criminal Choice[b]	LSI Attitudes[c]	Mean R^2	Canonical Coefficient
Criminal Sentiments	15.2	12.2	7.8	11.8	.45/.26
Social Support for Crime	10.2	3.6	2.0	5.3	.34
Alienation	7.3	2.6	1.2	3.7	.28
Conventional Success Orientation	4.0	3.6	3.6	3.7	.28
Trouble at School/Home	6.8	0.8	2.9	3.5	.28
Personal Distress/Confidence	1.0	1.7	2.9	1.9	.20
Empathy	0.0	0.2	0.0	0.1	.06(ns)
Socialization	2.0	0.4	2.2	1.6	.19(ns)
Personality Problems	10.9	7.8	2.2	7.0	.37
Total Battery R^2	23.0	25.0	20.0	22.7	.55/.45
Adj. R^2	14.0	16.0	11.0	13.7	
Maximum % of shared variance associated with criminal sentiments (CS R^2/Adj. R^2	100.00	76.2	70.9	86.1	

a Ns may vary slightly because of missing values

b These measures were based on Harris (1975)

c This measure is subtotal K of the Level of Supervision Inventory (Andrews, 1983b).

TABLE 7

Paper-and-Pencil Measures in Relation to Assessments of Conventional Ties by Structured Interview: Percent of Variance Shared and Canonical Correlations (N=192 Probationers)[a]

Paper and Pencil Measures	Expected Value Noncriminal Choice	LSI Educ./Employ[c]	Average R^2	Canonical Coeficient
Criminal Sentiments	1.4	5.8	3.6	.26
Social Support for Crime	1.2	1.4	1.3	.16 (ns)
Alienation	3.2	11.6	7.4	.36
Conventional Success Orientation	9.6	4.8	7.2	.34
Trouble at School/Home	1.4	4.0	2.7	.25
Personal Distress/Confidence	6.8	2.2	4.5	.28
Empathy	0.6	1.7	1.2	.15 (ns)
Socialization	0.5	8.4	4.4	.29
Personality Problems	6.8	13.7	10.2	.38
Total Battery R^2	21.0	26.0	23.5	
Adj. R^2	12.0	18.0	15.0	
CS R^2/adj. R^2	11.7	32.2	24.0	

a Ns may vary slightly because of missing values
b This measure was based on Harris (1975)
c This measure is subset B of the Level of Supervision Inventory (Andrews, 1983b).

TABLE 8

Paper-and-Pencil Measures in Relation to Assessments by Independent Raters of the Anticriminal Modeling and Problem Solving Skills of Probation Officers: Mean Correlations[a]

	Assessments of counselling skills Anticriminal Modeling Problem Solving					
Paper and Pencil Measures	Rated by Supervisors (N=60)	Coding of Audiotapes (N=46)	Mean r	Rated by Supervisors (N=60)	Coding of Audiotapes (N=46)	Mean r
Criminal Sentiments	.21	.16	.18	.00	.00	.00
Alienation	.00	.00	.00	.00	.00	.00
Conventional Success Orientation	.00	.00	.00	.00	.00	.00
Trouble at School/Home	.00	.17	.09	.32	.00	.16
Personal Distress	.00	.00	.00	.00	.00	.00
Empathy	.00	.00	.00	.00	.00	.00
Socialization	.29	.45	.37	.29	.00	.15
Personality Problems	.22	.34	.28	.22	.14	.21

[a] All data from Andrews, Kiesling et al. (1979). Measures of Social Support were not included in that battery and the personality set did not include Sensation Seeking or Self-Control. The values of nonsignificant rs were not included in the original report and thus the mean correlations were computed by introducing nonsignificant rs as zero.

TABLE 9

Concurrent Correlations of Criminal

Sentiments with Measures of Differential Association (DA)

Measure of Differential Association Respondents	LCP	TLV	ICO
Self-Report Questionnaire			
Probationers (N=102)[a]			
Affective Tres to thieves	-.38	.37	.27
Affective Tres to Aggressors	-.35	.26	.28
Exposed to Criminal Models	-.34	.30	.25
Access to Criminal Resources	-.38	.32	.31
Undergraduates			
Short's DA Scale (N=100)[b]	-.25	.32	.23
Social Support for thieves (N=440)[c]	-.12	.38	.35
Structured Interviews/Social Records			
Probationers			
Unconventional Friends (N=102)[a]	-.28	.29	.20
LSI Companions (N=191)[a]	-.12	.19	.24
Ties to Offenders (N=133)[d]	-.21	.21	.19

[a] Data from Andrews and Kiessling (in progress).
[b] Data from Wilkins (1975)
[c] From Morrison (1982)
[d] From Andrews, Kiesling et al. (1979)

TABLE 10

Dynamic Dependent Validities of Criminal Sentiments: The Effects of Experimental Manipulations of the Contingency and Relationship Dimensions of Differential Association in Counselling

Participants Independent Variable (Study#)[b]	Dependent Variables[a] LCP	TLV	ICO
Prisoners			
Exposed to anticriminal sentiments of citizen volunteers			
Versus no treatment controls (I)	(ns)	Dec.	Dec.
waiting list controls (Wormith, 1980)	(ns)	(ns)	Dec.
waiting list controls (II)	Inc.	Dec.	(ns)
recreational interaction with citizen citizen volunteers (II)	Inc.	Dec.	(ns)
procriminal sentiments of other prisoners (IV)	Inc.	(ns)	(ns)
Citizen Volunteers			
Exposed to procriminal sentiments of prisoners			
Versus waiting list controls (I)	(ns)	Inc.	Inc.
waiting list controls (Wormith, 1980)	(ns)	(ns)	Inc.
Prisoners			
Exposed under "intimate" conditions			
Versus less "intimate" conditions (III)	Inc.	Dec.	(ns)
less "intimate" conditions (Large groups, not previously reported)	Inc.	Dec.	(ns)
Probationers			
Supervised by high empathy-anticriminal probation officers			
Versus other probation officers (IV)	Inc.	Dec.	Dec.

[a] (ns) non significant; (Dec.) Significant mean decrease; (Inc.) significant mean increase.

[b] The studies in parenthesis refer to studies reviewed by Andrews (1980).

TABLE 11

The Paper-and-Pencil Measures and Indicators of a Criminal Past

Paper and Pencil Measures	Extreme Groups Canonical Coefficient[a] (N=254)	Undergraduates Self-reported Offenses Mean r (N=100)[b]	Undergraduates Self-reported Arrests Mean r (N=440)[c]	Probationers Self-report/ official record canonical coef. (N=192)[d]
Criminal Sentiments	.34	.25	.14	.36
Social Support for Crime	.36	.46	.21	.43/.16
Alienation	.13	.14	(na)	.14(ns)
Conventional Success Orientation	.17	(na)	(na)	.29
Trouble at School/Home	.34	.33	(na)	.52/.19
Personal Distress	.37	.02(ns)	(na)	.09(ns)
Empathy	.26	.17	(na)	.19
Socialization	.25	-.43	(na)	.34
Personality Problems	.55	.29	(na)	.48/.28
Total Battery	.66	.78(mr)	(na)	.65/.41

a. The canonical coefficients are from discriminant analyses of probationers and volunteer probation officers (Andrews & Kiessling, in progress)
b. Wilkins (1975)
c. Morrison (1982)
d. Andrews and Kiessling (in progress)
e. All coefficients $p<.05$ unless otherwise noted (ns); coefficients not available (na); multiple correlation (mr).

TABLE 12

The Prediction of Recidivism with Paper-and-Pencil Measures in two Samples of Probationers

Paper and Pencil Measures	3 Year Post Probation Reconviction (N=118) MR	In Program Recidivism (122 - N - 153)		
		Self-report MR	Official MR	Canonical R
Criminal Sentiments	.44	.44	.33	.46
Social Support for Crime	(na)	.42	.30	.44
Alienation	(ns)	.20(ns)	.28	.34
Conventional Success Orientation	(ns)	.23(ns)	.16(ns)	.27(ns)
Trouble at School/Home	.31	.43	.35	.49
Personal Distress	(ns)	.26	.20(ns)	.32
Empathy	(ns)	.05(ns)	.19	.25(ns)
Socialization	.27	.31	.30	.45
Personality Problems	.36[a]	.47	.46	.64

[a]. Sensation seeking and self-control not included in this sample.

TABLE 13

Functional Validity Estimates for the Paper-and-Pencil Measures in Two Samples of Probationers: Proportion of Explained Variance in Recidivism Attributable to Residualized Retest Scores[a]

Paper and Pencil Measures	3 Year Post Reconviction (N=118)	In Program Recidivism (122 - N - 153)		
		Self-Report	Official	Mean Estimate
Criminal Sentiments	.56 (.108/.194)	.45 (.089/.198)	.36 (.039/.111)	.40
Social Support for Crime	(na)	.37 (.065/.176)	.17 (.015/.088)	.27
Alienation	(ns)	(ns)	.13 (.010/.077)	(ns)
Conventional Success	(ns)	(ns)	(ns)	(ns)
Trouble at School/Home	.39 (.036/.096)	.17 (.031/.187)	.36 (.046/.126)	.26
Personal Distress	(ns)	(ns)	(ns)	(ns)
Empathy	(ns)	(ns)	(ns)	(ns)
Socialization	.40 (.029/.073)	.09 (.009/.096)	.07(.006/.090)	.08
Personality Problems	.18 (.024/.120)[a]	.24 (.052/.217)	.24 (.051/.212)	.24

a. The functional validity estimates were obtained by entering retest scores in a second block, following the intake scores. The "change in R^2" was then divided by the "total R^2", as reported in paranetheses.

b. Sensation seeking and self-control scales were not included in this sample.

TABLE 14

Three Year Post Probation Reconviction Rates By

Intake And Six Month Retest ICO Scores

Intake ICO Level	Retest ICO Level: Low (16-)	Moderate (17 - 19)	High (20+)	Overall
High (20+)	.07 (1/14)[a]	.43 (6/14)	.40 (4/10)	.29 (11/38)
Moderate (17-19)	.10 (2/20)	.37 (9/24)	.57 (8/14)	.33 (19/58)
Low (16-)	.10 (4/38)	.20 (3/15)	.67 (2/3)	.16 (9/56)
Overall	.10 (7/72)	.34 (18/53)	.52 (14/27)	.19 (39/152)

[a] Actual reconviction frequencies and Ns per cell are presented in parentheses.

Appendix A

Three Measures of Criminal Sentiments; Attitude Towards Laws, Courts and Police (LCP), Tolerance for Law Violation (TLV), and Identification With Criminal Others (ICO).*

1. Laws are so often made for the benefit of small selfish groups that a person cannot respect the law. (LCP-)
2. Nearly all laws deserve our respect. (LCP+)
3. It is our duty to obey all laws. (LCP+)
4. Laws are usually bad. (LCP-)
5. The law is rotten to the core. (LCP-)
6. Almost any jury can be fixed. (LCP-)
7. You can't get justice in court. (LCP-)
8. On the whole, lawyers are honest. (LCP+)
9. Fake witnesses are often produced by the prosecution (LCP-)
10. On the whole, the police are honest. (LCP+)
11. A cop is a friend to people in need. (LCP+)
12. Life would be better with fewer police. (LCP-)
13. The police should be paid more for their work. (LCP+)
14. The police are just as crooked as the people they arrest. (LCP-)
15. All laws should be strictly obeyed because they are laws. (LCP+)
16. The law does not benefit the common person. (LCP-)
17. The law as a whole is sound. (LCP+)
18. In the long run law and justice are the same. (LCP+)
19. The law enslaves the majority of people for the benefit of a few. (LCP-)
20. On the whole judges are honest and kindhearted. (LCP+)
21. Court decisions are almost always just. (LCP+)
22. Almost anything can be fixed in the courts if you have enough money. (LCP-)

Appendix A - Cont'd

23. A judge is a good person. (LCP+)

24. Our society would be better off if there were more police. (LCP+)

25. Police rarely try to help people. (LCP-)

26. Sometimes a person like myself has to break the law in order to get ahead. (TLV+)

27. Most successful people used illegal means to become successful. (TLV+)

28. People who have been in trouble with the law have the same sort of ideas about life that I have. (ICO+)

29. People should always obey the law no matter how much it interferes with their personal ambition. (TLV-)

30. I would rather associate with people that obey the law than thosse that don't. (ICO-)

31. It's alright for a person to break the law if he/she doesn't get caught. (TLV+)

32. I'm more like the people who can make a living outside the law than I am like those who only break the law occasionally. (ICO+)

33. Most people would commit crimes if they knew they wouldn't get caught. (TLV+)

34. People who have been in trouble with the law are more like me than people who don't have trouble with the law. (ICO+)

35. There never is a good cause for breaking the law. (TLV-)

36. I don't have much in common with people who never break the law. (ICO+)

37. A hungry person has the right to steal. (TLV+)

38. It's alright to evade the law if you don't actually violate it. (TLV+)

39. No one can violate the law and be my friend. (ICO-)

40. A person should obey those laws which seem reasonable. (TLV+)

41. A person's a fool to work for a living if he/she can get by some easier way; even if it mean violating the law. (TLV+)

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* The 5-point Likert scale ranges from Strongly Disagree to Strongly Agree and is scored 1 to 5 (+) or 5 to 0 (-).